

Same Initial Size Ammonium Sulfate Particles, IPP with Q-AMS

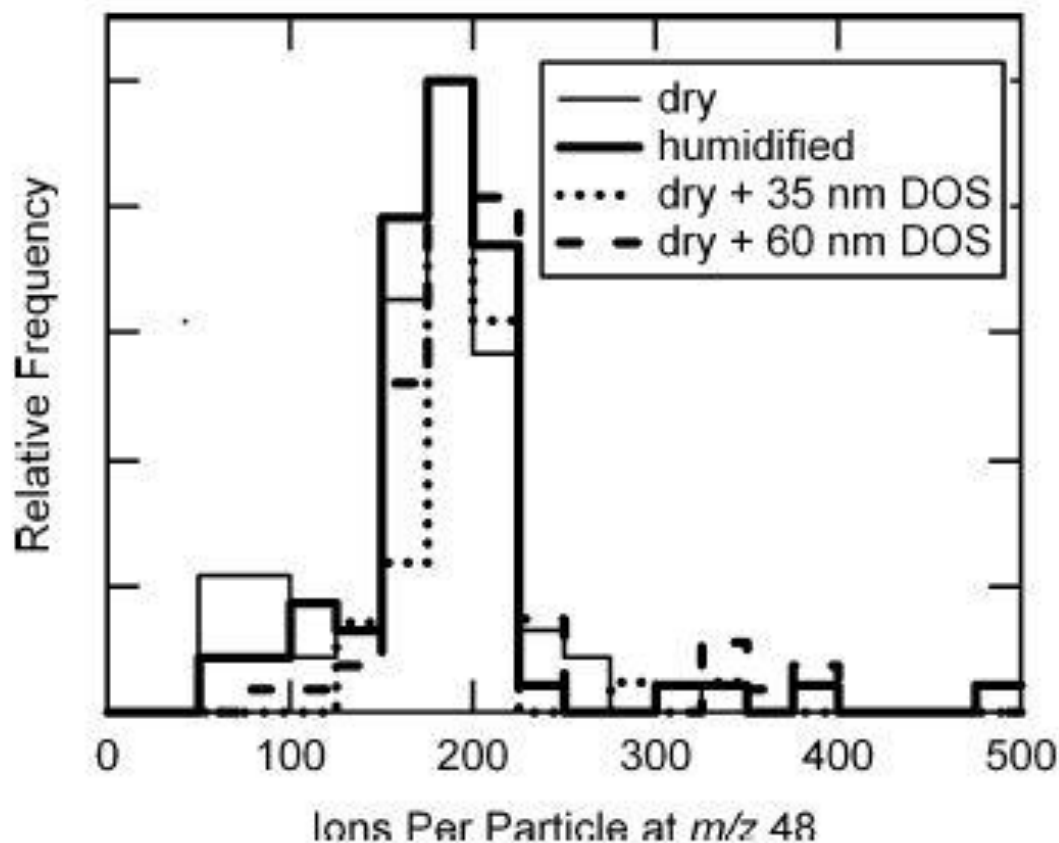


FIG. 4. Histograms of the integrated peak area at m/z 48 for individual $(\text{NH}_4)_2\text{SO}_4$ particles (initial $d_m = 276$ nm) that were dry, humidified to $>90\%$ RH, and dry and coated with varying layer thicknesses of dioctyl sebacate (DOS).

Ammonium from Ammonium Nitrate and Ammonium Sulfate Particles

- 1 **Table 5.** Average ratios and one sigma standard deviations of m/z 15 and m/z 17 relative to m/z
- 2 16 from the difference spectra of ammonium sulfate or ammonium nitrate particles in Argon.

Peak m/z ratio	15/16	17/16	Vaporizer Temperature (°C)
Ammonium Sulfate, n=18	0.10+/-0.03	1.1+/-0.2	515-965
Ammonium Nitrate, n=12	0.11+/-0.01	1.0+/-0.2	510-965
Reference [5], nitrate or sulfate, n=12	0.08+/-0.01	1.15+/-0.06	500
Batch File [4]	0.1	Floats (or 1.1)	550

[4] J. D. Allan, A. E. Delia, H. Coe, K. N. Bower, M. R. [Alfarra](#), J. L. Jimenez, A. M.

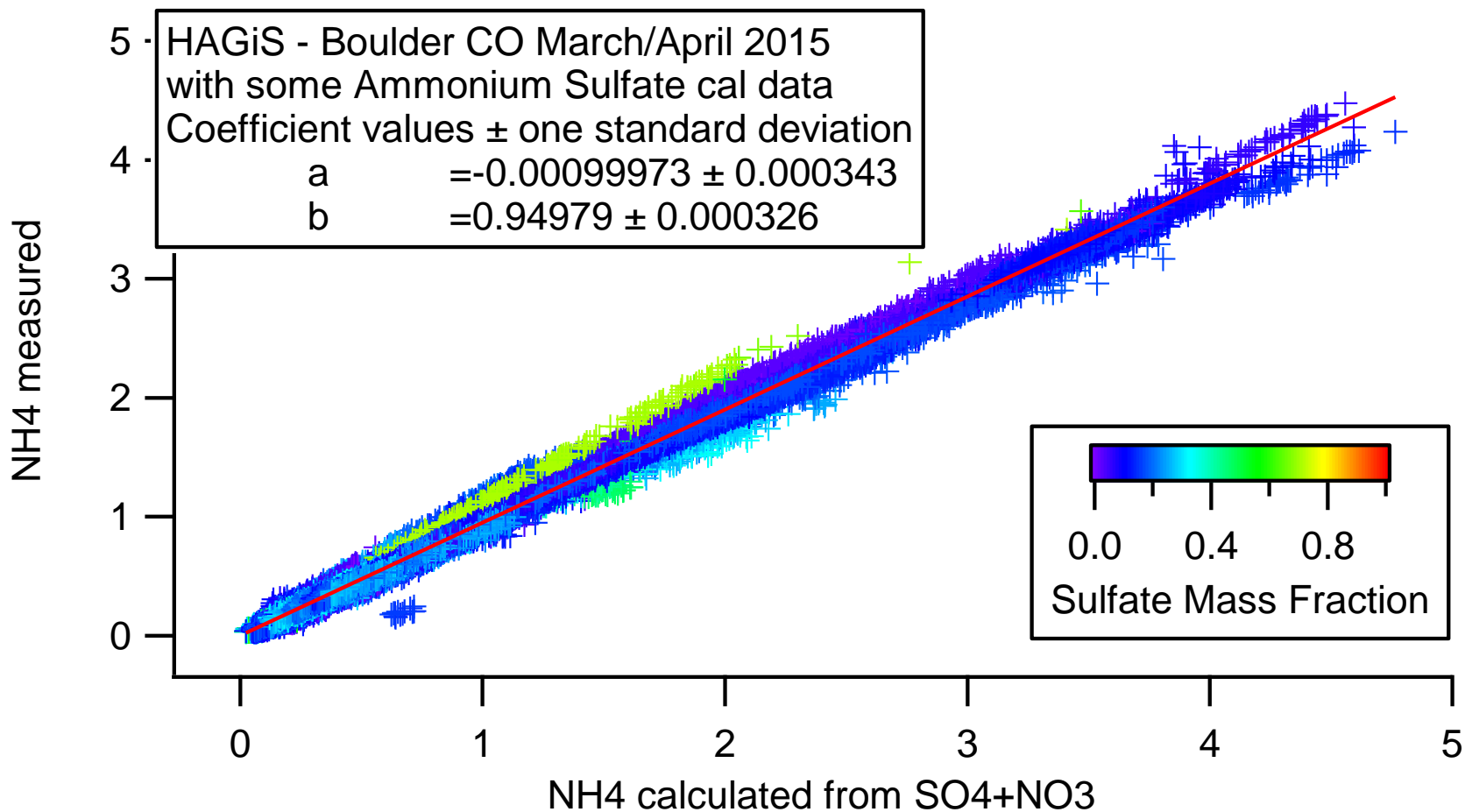
Middlebrook, F. Drewnick, T. B. [Onasch](#), M. R. [Canagaratna](#), J. T. Jayne, D. R. Worsnop,

J. Aerosol Sci. 35 (2004) 909, [doi: 10.1016/j.jaerosci.2004.02.007](#).

[5] [Hogrefe](#), O., F. Drewnick, G. G. [Lala](#), J. J. Schwab, and K. L. [Demerjian](#), *Aerosol Sci.*

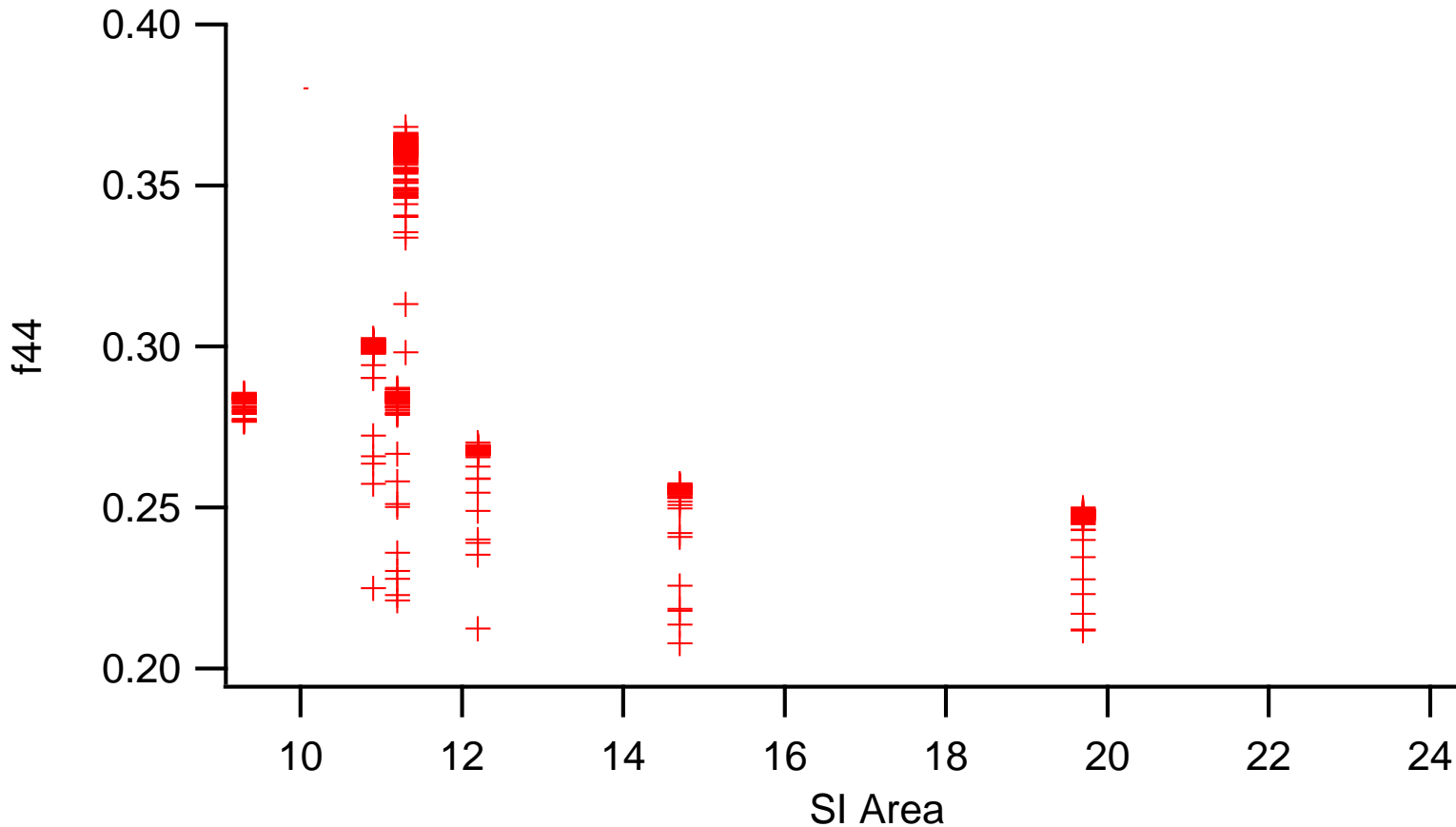
Technol., 38(S1), 196-214, [doi: 10.1080/02786820390229516](#), 2004.

Ion Balance for Field Data with Significant Nitrate



Used default RIE for NH4 (=4.0) and SO4 (=1.2).

Artificially High f44 when SI Area is Too Low



Lab particles with same composition, same threshold, increasing MCP voltage.